

CLAIMS

1. A workpiece holding device (D), provided with a transversal rotation axis in relation to the tool downward axis of a machining machine tool (M), with which the device (D) is associated, characterized by the fact that it is constituted by a frame supporting two bearings for rotational guiding according to the aforementioned transversal rotation axis, the structure formed by the frame and the two bearings being closed by a rotatable worktable, the ends of which are removably coupled to two rotational guiding bearings, arranged to take into account axial forces.
2. The device (D) according to claim 1, characterized by the fact that the aforementioned worktable is actuated by a direct drive motor integrated with one of the bearings.
3. The device (D) according to claim 1, characterized by the fact that the aforementioned rotatable table (100) is associated with at least a rigidification beam (120) for the receiving plate (110).
4. The device (D) according to claim 1, characterized by the fact that the bearings (210 and 220) support and rotationally guide two rotatable shafts (211 and 221) each having a support and fixation surface (212 and 222) for the receiving plate (110).
5. The device (D) according to claim 1, characterized by the fact that the aforementioned frame (200) is internally laid out in a manner to create a cooling liquid circulation circuit.
6. The device (D) according to claim 5, characterized by the fact that the cooling liquid is the cutting fluid used by the machine tool (M).

7. The device (D) according to claim 1, characterized by the fact that it includes, for each bearing (210 and 220), a direct drive motor, the control of which is synchronized.

8. The device (D) according to claim 1, characterized by the fact that support plane of the aforementioned table (100) is shifted with respect to the axis of rotation of the shafts to which their ends are coupled, the shafts being rotationally guided by the aforementioned bearings (210 and 220).

9. The device (D) according to claim 1, characterized by the fact that at least one of the bearings (210 or 220) is coupled to a compensating means (400) providing a compensating force adapted to the lever arm formed by the rotatable table (100) supporting the piece.

10. The device (D) according to claim 9, characterized by the fact that the aforementioned compensating means (400) is constituted by a hydraulic piston (410) coupled to an accumulator, the pressure of which is regulated according to the lever arm formed by the rotatable table (100).

11. The device (D) according to claim 1, characterized by the fact that at least one bearing (210 or 220) is equipped with a breaking means.

12. The device (D) according to claim 1, characterized by the fact that the direct drive motor (300) actuates the piece to be machined during the machining operation while the machine and the piece are in contact.